

D rug Interactions

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Drug Information Center

Drug interactions is a topic that usually conjures up feelings of fearfulness and helplessness. Using this lesson, we can learn useful points about drug interactions and answer some important questions about them. This information will help you prevent harmful drug interactions for yourselves, your loved ones, and others. Your group leader will help you by providing more in-depth information and examples.

What is a drug interaction?

Simply put, a drug interaction is a change in the effect of one drug when taken with another drug, food, or other substance. For example, two or more drugs taken together can change the way a drug works in your body. This possibly could make one or more of the drugs less safe or could cause them to work improperly.

How big a problem are drug interactions?

- Americans over age 65 make up 12 percent of the population, but they consume about 30 percent of all prescription drugs and 40 percent of over-the-counter (OTC or nonprescription) drugs.
- When two to four different drugs are taken, the potential for interaction is 6 percent, but the risk increases to 50 percent with five drugs and to almost 100 percent with eight drugs.
- The average older person takes four or five drugs daily.
- Drug interactions are responsible for 3 percent to 10 percent of admissions of older patients to the hospital, which costs an estimated \$20 million annually in the United States.

How do drugs interact?

Drugs interact by:

1. increasing or decreasing drug absorption from the stomach and intestines,
2. increasing or decreasing the body's rate of breaking down drugs (by the liver),
3. increasing or decreasing the body's rate of excreting drugs (by the kidney), and
4. causing competing actions in the body.

What can drug interactions lead to?

Drug interactions may lead to:

1. additive effects, leading to either beneficial results or side effects;
2. lessened effects, leading to drug failure; and
3. no effect, leading to no changes.

What are some factors that put one at higher risk for drug interactions?

- Having multiple diseases
- Taking multiple drugs
- Being female
- Being overweight
- Having a previous drug interaction
- Being very young or very old
- Being dehydrated
- Having poor nutrition
- Having low or high blood pressure
- Having congestive heart failure
- Having liver and/or kidney damage

What are some drugs that can increase blood levels of other drugs?

The following list is not complete, but is meant to give you an idea of some of the most common interacting drugs.

Generic name (Brand name, if applicable)

Alcohol use, acute ("binge drinking")	Ketoconazole (Nizoral®)
Allopurinol (Zyloprim®)	Metoprolol (Lopressor®)
Amiodarone (Cordarone®)	Metronidazole (Flagyl®)
Chlorpromazine (Thorazine®)	Nefazodone (Serzone®)
Cimetidine (Tagamet®)	Nortriptyline (Pamelor®)
Ciprofloxacin (Cipro®)	Omeprazole (Prilosec®)
Clarithromycin (Biaxin®)	Oral Contraceptives
Diltiazem (Cardizem®)	Propoxyphene (Darvon®)
Dilsulfiram (Antabuse®)	Propranolol (Inderal®)
Erythromycin	Quinidine
Fluconazole (Diflucan®)	Trimethoprim & Sulfamethoxazole (Bactrim®)
Fluoxetine (Prozac®)	Valproic Acid (Depakote®)
Imipramine (Tofranil®)	Verapamil (Calan®, Isoptin®)
Itraconazole (Sporanox®)	

What are some drugs that can decrease blood levels of other drugs?

Generic name (Brand name, if applicable)

Alcohol use, chronic	Phenobarbital
Carbamazepine (Tegretol®)	Phenytoin (Dilantin®)
Cigarette smoking	Primidone (Mysoline®)
Griseofulvin (Fulvicin®)	Rifampin (Rifadin®)
Omeprazole (Prilosec®)	

What are some over-the-counter (nonprescription) drugs that may have important interactions?

This partial list is meant to give participants an idea of what types of commonly used OTC drugs may interact with other drugs.

Drug	Examples
Antacids (<i>drugs that treat indigestion, heartburn, sour stomach</i>)	Maalox®, Tagamet®
Antiemetics (<i>drugs that treat nausea, vomiting</i>)	Dramamine®, Bonine®
Antihistamines (<i>drugs that treat allergy or cold</i>)	Benadryl®, Tavist®
Bronchodilators (<i>drugs that treat asthma</i>)	Primatene®, Ephedrine
Cough/Cold/Nasal Decongestant	Sudafed®, NyQuil®
Analgesics (<i>drugs that treat body aches, pains, headaches</i>)	Aspirin, Motrin®
Laxatives (<i>drugs that treat constipation</i>)	Dulcolax®, Senokot®
Sleep Aids (<i>drugs that treat sleeplessness</i>)	Nytol®, Sominex®
Weight Control (<i>drugs that suppress appetite</i>)	Acutrim®, Dexatrim®

It is important to always inform your pharmacist and doctor of all OTC medications that you are taking.

What are some foods and drinks that may cause interactions?

Certain foods and beverages can interact with specific types of drugs (called drug-food interactions). Below are some examples of food or drink that may interact with certain drugs.

- Milk
- High-fat meal
- Grapefruit juice
- Vitamins and minerals

Where can one get more information on drug interactions?

Any of the following are good places to get information on drugs, including drug interactions.

Pharmacist: Most accessible. Also, pharmacists have the greatest knowledge about interactions.

Doctor: A good source, but often not available and not as knowledgeable about interactions.

For prescription drugs: Look at the label and any accompanying information, such as brochures or fact sheets given with the prescription.

For over-the-counter drugs: Look at “warnings” or “drug interaction precaution” section on label. It often will say which drugs or foods may interact with the product or which drugs or foods to avoid.

Patient-oriented sources: Listed below are some examples of drug information books written for the public.

1. *The Complete Drug Reference*, published by Consumer Reports. For more information, call (914) 378-2000.
2. *The USP Guide to Medicines*, published by Avon Books. For more information, call (800) 238-0658.
3. *What Do I Take? A Consumer Guide to Nonprescription Drugs*, published by the American Pharmaceutical Association. For more information, call (800) 878-0729.

What are some tips to remember about drug interactions?

- With each visit to the doctor, inform him or her of all the medications (including prescription drugs, OTC drugs, home remedies, and herbal medicines) that you are taking.
- Get all prescriptions filled at the same pharmacy.
- Read the drug labels very carefully.
- Read directions, warnings, and interaction precautions printed on all medication labels.
- Take only drugs prescribed for you.
- Have your medications thoroughly reviewed by your doctor or pharmacist once a year.
- Know what to do if you have new symptoms or side effects. Know whom to contact and how to reach them.
- Take medicine with a full glass of water.
- Don't stir medicine into your food or take capsules apart unless directed to do so.
- Don't take vitamin pills at the same time you take medication without checking first with your doctor or pharmacist.
- Don't mix medicine into hot drinks.
- Never take medicine with alcoholic drinks.
- Don't stop taking a drug without checking with your doctor.
- Don't keep old or expired medicines in your medicine cabinet.
- **Don't be afraid to ask questions.** This is the most important tip of all and cannot be stressed enough!

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